

Pacific Southwest Organic Residuals Symposium
Open Space
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Issue: How do we quantify net environmental benefits?
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Discussion Notes

- “Net environmental benefits” How is this defined? What does it mean? Could it be used to rank various alternatives in terms of highest and best beneficial use and value?
- Key concerns relative to scaling regionally for aggregate affect of benefits and negatives for a project—scale and time important
- Cap and trade concept would be a beneficial process to evaluate for quantifying net environmental benefits; cap and trade within a basin or region: could this be an appropriate frame of reference?
- Ecological footprint: calculator of carbon footprint and sustainability developed in British Columbia accounts for resources needed for human existence (food, water, shelter material, land resources) and net impact of a project. The calculator is a measurement tool and has several indices such as greenhouse gases (GHG)
- Multiplier effect of a project and impact to environment and economical situations
- Need to have a multi-media evaluation for permitting (CEQA? NEPA?)
- How can we mitigate for impacts?
- Example of highest and best beneficial use for GHG reductions and tradeoffs--dairy manure: emits NOx just piled and poses a water quality problem when exposed to rain (runoff); examples of beneficial uses of manure: a farmer can compost it; or discharge it to a lagoon and land apply it as a fertilizer but even then, if over applied, can create a runoff problem to waters, or in a lagoon, it can pose a problem to ground water by leaching nitrates and salts; or the manure can be used as a source of renewable energy to the dairy facility, energy grid but the digester can

pose an air quality problem in a non-attainment area (NO_x), or the highest and best use may be as a source of biogas for vehicles

- Private versus public investments for dairy digesters because of the benefits to a sustainable environment (i.e., shouldn't there be public financial incentives for these technologies commensurate with the net environmental benefits?)
- Do we trade off public health issues (NO_x) in order to achieve the net environmental benefits of anaerobic digesters?
- Greatest benefit of using a technology or practice should be for the highest and best use
- Decision making using an adaptive management approach would create a matrix of all constituents such as air, water, soil and waste
- Net environmental benefit entails evaluation of multiple matrices, many of which may suffer for lack of appropriate data when evaluated
- Agree on making incremental progress now to improve the situation and assume we will continue making improvements through adaptive management in the long run, for in a generation we can do better with new technological advances (i.e., net environmental benefit will occur in the long run as details are worked out)
- Why not allow a small increase in NO_x emissions from a digester if the farmer is willing to decrease other sources of NO_x such as mobile or vehicular emissions at the same time (i.e., no net increase in NO_x on the farm; holistic approach)?
- Scale of good versus bad effect: do they operate on the same frame of reference (i.e., GHG relevant on global scale while NO_x is only relevant on an air basin scale)?
- How to consider health effects: should this be included in the analysis? Economic analysis of project must also be considered, is there a negative impact? Both health and economic analysis could be the basis for quantifying net environmental benefit. A problem for any economic analysis on an environmental criterion that could involve human morbidity/mortality, is how do you place a value on human life?
- Federal statutes tie the State government's hands (i.e., Clean Air Act); problem of the permit writer: "My hands are tied" or "I can't tell you how to comply." Individual agencies don't have adequate authority or purview to address multi-media tradeoffs
- Obsession with zero drainage, discharge, emissions to reduce NO_x from other on farm sources
- How does one compare dissimilar environmental criteria to arrive at net environmental benefit, for example if two units of GHG reduction at a cost of one unit of NO_x then can we say net environmental benefit is positive? Or is this an apples-and-oranges comparison?

Action Items/Next Steps

- Tie this issue with the "cross media/silo'd agencies" topic and see where this takes the discussion with the formation of a new workgroup

- Convene a work group of interested individuals (possible members to include but not limited to Paul Martin, Western United Dairymen, Allen Dusault, Sustainable Conservation, Luana Kiger, NRCS, Eddie Hard and Rolf Frankenbach, CDFA, and Jovita Pajarillo, USEPA) to work on a compelling and persuasive “white paper” on the issues and present to the secretaries of Resources, CalEPA, and CDFA in order for them to jointly convene a summit to develop a structure and process to address regulatory conflict and contradiction. Get support from trade associations, California Roundtable for Agriculture and Environment, the Environmental Working Group, environmental NGOs and industry to create a unified platform on the issues of anaerobic digesters, large scale composting, biofuels, co-generation, etc., which are instrumental to implementation of AB32. Get interest from legislators.